

ME203 PROBLEM SET #2

Issued: September 18, 2002

Solutions Available: September 24, 2002

<http://www.mhlt.uwaterloo.ca/courses/me203/>

1. Text - Section 2.2
 - Problem 7, 12, 21 (solution of separable equations)
 - Problem 29 (uniqueness of solutions)
 - Problem 34 (application to cooling)
2. Text - Section 2.3
 - Problems 7, 13, 18 (integrating factor for solution of linear equations)
3. Text - Section 2.4
 - Problems 9, 15, 24 (exact differentials)
4. Find the general solution to differential equation: $x dy - (y + x^3) dx = 0$
(Hint: re-arrange equation and look for special exact differentials)